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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,192	11/15/2000	Allen Louis Gorin	AT&T 2000-0110	8108
23838	7590	06/30/2005	EXAMINER	
KENYON & KENYON 1500 K STREET NW SUITE 700 WASHINGTON, DC 20005			KNEPPER, DAVID D	
			ART UNIT	PAPER NUMBER
			2654	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/712,192	<b>Applicant(s)</b> GORIN ET AL.	
	<b>Examiner</b> David D. Knepper	<b>Art Unit</b> 2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11, 12, 14-22, 24, 25 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11, 12, 14-22, 24, 25 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. Applicant's correspondence filed on 23 Nov 2004 (Amendment and Ar) has been received and considered. Claims 1-9, 11, 12, 14-22, 24, 25 and 27 are pending. Claims 10, 13, 23 and 26 have been canceled.

#### **Abstract**

2. The Abstract of the Disclosure is accepted.

#### **Priority Claims**

3. The applicant(s) should check their filing receipts and/or the Patent Application Information Retrieval (PAIR) system for the acknowledgment of their **domestic** priority or benefit claims (if any) under 35 USC 119(e), 120 or 121 (37 CFR 1.78).

#### **Claims**

4. Claim 14 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14: It is unclear how the step of method claim 14 is interconnected with claim 1. For example, it is not clear how the providing step can be performed after the determining step of claim 1. It seems that this step should be conducted before the determining step and that there should be some particular relationship that indicates how they would affect the determination of a successful dialog. It is unclear what type(s) of input are required and it is unclear what order any particular input(s) are required as well as how each is processed in relation to the other.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1, 3-9, 11, 14, 15, 17-22, 24 and 27 are rejected under 35 U.S.C. 103 as being unpatentable over Horvitz (6,490,698) in view of Horvitz (6,421,655).

It is noted that Horvitz ('698) explicitly incorporates Horvitz ('655) by reference in column 1, lines 6-9 and 11.

As per claims 1, 15, "a method" is taught or suggested with his conversation control, col. 2:

"determining whether a probability of conducting a successful dialog with the user exceeds a first threshold" (Horvitz's ('698) inference probabilities exceeding or not exceeding certain thresholds, col. 10, lines 54-55, suggests the determination of "further dialog" with his cooperative behavior in dialog, col. 9, lines 19-20, further described as can be appreciated by those of ordinary skill within the art, this is one specific decision-analytic manner of what can be referred to as the computation of ideal action ("successful dialog") under uncertainty, given the consideration of the utilities associated with each outcome); and

"probability is determined using dialog training database stored in a dialog training database" (suggested by his system memory 22 which contains programs and data).

Probability based on a “training database” is obvious over Horvitz ('698) use of a Bayesian networks, col. 7, line 17 and his use of a shared knowledge base in col. 7, line 46. It would have been obvious to one of ordinary skill in the art that the training of the network could be done regardless of whether the data is collected over time or is already located in a database.

It is noted that Horvitz ('698) does not teach details about the relationship of the probability “threshold” to dialog control. Horvitz ('655) shows details for performing probability analysis regarding the use of a “threshold” in columns 12-13. Horvitz ('655) explicitly teaches details about the cooperative behavior in dialog noted above in Horvitz ('698) which shows that exceeding a particular threshold will allow continuing dialog. Therefore it is obvious that Horvitz will perform “further dialog” based on a threshold analysis to act as a dialog manager.

Claim 3-5, 17, 18, 19: Using more than one threshold is taught in figures 4(a) and 4(b) of Horvitz ('698). Different threshold comparisons result in adapting the dialog in different ways as explained in column 9. Horvitz ('655) teaches details for using multiple thresholds in columns 12-13.

Claims 6-7, 20: The use of “nonverbal communications” are taught by his list of known computer input devices to include keyboard 40 and pointing device 42 ... joystick, game pad, satellite dish, scanner, or the like, col. 4, lines 53-56, Horvitz ('698). See also figure 6 of ('655).

Claim 8, 21: Using the system for “customer care” is anticipated with his example of getting a shuttle for a customer who needs to go somewhere (see columns 6 and 9, Horvitz ('698)).

Claim 9, 22, 27: Horvitz ('655) teaches "understanding" in column 5, lines 44-50 that the detailed analysis noted above is performed for the purpose of understanding a user's goals to provide for conversational computer-user interaction.

Claim 11, 24: Data collected from various sources is taught by Horvitz ('655) in column 11, lines 5-17 who indicates that his information received can be of many types. Those types include speech, audio, image/video which are analyzed to determine value-of-information, col. 11, lines 25-27. The combination of these data types and the probability analysis noted above allow proper recognition, understanding and dialog control.

Claims 14 are rejected under similar arguments as noted above. See figure 6 of Horvitz ('655) which shows user input, a decision engine and action goal determinations.

7. Claims 2, 16 and 28 are rejected under 35 U.S.C. § 103 as being unpatentable over Horvitz ('698 & '655) as applied to claim 1, in further view of Shipman (5,033,088).

It is noted that Horvitz does not explicitly teach "the user is routed to a human for assistance". However, Horvitz explicitly teaches that conditions that cause Advancing Activity, unexpected Termination, etc. is known but The invention is not so limited, col. 10, lines 44-46 inviting alternative solutions to be applied. Shipman teaches that a well known alternative solution In the event the speech recognition system 40 fails to recognize the callers response ... the caller's recorded response and the recognizer's proposed response or responses are presented to the human attendant, col. 2, lines 57-68. It would have been obvious for a person having ordinary skill in the pertinent art, at the time the invention was made, to correct errors or other problems that cannot be solved automatically by the computer using human intervention because

Shipman teaches that this is a well known solution for speech recognition devices that have difficulty solving an automated task as noted above.

8. Claims 12 and 25 are rejected under 35 U.S.C. § 103 as being unpatentable over Horvitz ('698 & '655) as applied to claims 1 and 3-11 and 15 above in further view of Litman (Automatic Detection of Poor Speech Recognition at the Dialogue Level).

Claim 12, 25,: It is noted that Horvitz does not explicitly teach “storing a first dialog exchange in a dialog history database”. However, he is clearly using dialog information to determine the probability of conducting a successful dialog as otherwise claimed. Litman teaches that it is common to use a collection of system logs from actual dialogues (page 309), databases (corpus, page 310). Therefore it would have been obvious to one of ordinary skill in the art to create a database from recordings of dialogues because Litman teaches that such databases will help improve the dialogue training process by improving recognition at the dialogue level. It is inherent that the probability would have to be calculated for each exchange of data.

9. Claims 1-9, 11, 12, 14-22, 24, 25 and 27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13, 15-27, 29 and 31, respectively of Application No. 09/712,194 which have now been allowed. Although the conflicting claims are not identical, they are not patentably distinct from each other because the 09/712,194 application has an obvious limitation regarding “task classification”.

The “task classification” limitation does not appear in the instant application. However, this limitation is obvious in view of claims 8 and 21 (“customer care”) of the instant application. The term “customer care” is claimed in both applications as a further limitation. In the instant application, it provides a general statement which is a broad category of “tasks” which provide will aid the user. In the 09/712,194 application, “customer care” also appears as a further limitation of the broader “task classification” limitation. Thus, the claims in each application are obvious over each other.

It would have been obvious to remove the “task classification” limitation of ‘194 because it broadens the claims but does not render the claims (i.e. - of the instant application) inoperative.

This is now an obviousness-type double patenting rejection because the conflicting claims in the ‘194 application have been allowed.

#### **Remarks**

10. The changes to the claims have been addressed above with changes to the original rejections. The limitation regarding “dialog training data” was previous addressed regarding canceled claim 10 and is now addressed under claim 1 as noted above.

The teaching of Horvitz in column 7 noted above includes a shared knowledge base for dialog (col. 7, lines 45-47) and records it keeps of conversation-level observations (col. 7, lines 56-58). Therefore, it is been obvious that Horvitz is stored a database of relevant information to properly train his networks. His networks include Bayesian networks, decision-based transition networks, inference probabilities, and probability thresholds (col. 7, lines 15-20). Proper training



of these networks typically require large amounts of data which one of ordinary skill in the art would expect to store in a database (i.e. – the knowledge base and records noted above).

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Some correspondence may be submitted electronically. See the Office's Internet Web site <http://www.uspto.gov> for additional information.

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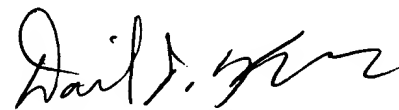
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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Knepper whose telephone number is (571) 272-7607. The examiner can normally be reached on Monday-Thursday from 07:30 a.m.-6:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (571) 272-7602.

For the Group 2600 receptionist or customer service call (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by email at [ebc@uspto.gov](mailto:ebc@uspto.gov). For general information about the PAIR system, see <http://pair-direct.uspto.gov>.



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